UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Environmental Protection Agency
Region IX
215 Fremont St.
San Francisco, CA. 94105

20 JUL 1981

TSC 14-1(81)105

Russell Carey
SimCal Chemicals
12688 S. Colorado Avenue
Helm CA 93627

Dear Mr. Carey:

A hazardous waste investigation was made at SimCal Chemicals on June 23, 1981. During the course of this investigation information was gathered by EPA in accordance with Section 3007 of the Resource Conservation and Recovery Act. A copy of the investigation report is enclosed for your information.

The deficiencies or violations that may be noted in the report are not necessarily inclusive and any omission to cite other violations or deficiencies is not intended to nor shall be binding upon the Agency.

Comments may be provided by you concerning any aspect of the report. In your response please refer to report number TSC 14-1(81)105.

EPA routinely provides copies of investigation reports to State agencies. Such releases will be handled according to the basic rules governing business confidentiality claims contained in the Code of Federal Regulations (40 CFR Part 2). Any claim of confidentiality should be made within fifteen (15) working days from the receipt of this letter. EPA will construe a failure to furnish timely comments as a waiver of the confidentiality claim.

If you have questions concerning this report, please contact Robert Mandel, Chief, Hazardous Materials Section at (415)556-8752.

Sincerely yours,

Original Signed by:

R. Michael Stenburg, Chief
Air and Hazardous Materials Branch
Surveillance and Analysis Division

Enclosures

bc: E-5-3
A-3-3

CONCURRENCES								
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SURNAME	Avol	Mandel	My					
DATE	7/15/81	7-20-81	7/20					

EPA Form 1320-1 (12-70) OFFICIAL FILE COPY

FSC 11-11-[illegible]

EPA REGION IX

FACILITY INVESTIGATION REPORT

Company Name: Sim Cal Chemicals

Street Address: 12688 S. Colorado Ave

City/State/Zip: Helm CA 93627

Phone Number: ([illegible]) [illegible] ( )

Mailing Address (if different from above):

P.O. Box 123

Helm CA 93627

Facility Representative(s) & Titles:

1. Russell Carey, Environmental Engineer
2.
3.

EPA Investigator(s):

1. Sandy Abel EPA Region IX
2. Rick Taft " "

Other Participants/Agencies:

1. [illegible] E+E
2. [illegible] Berkowitz E+E
3. [illegible] RWQCB

[illegible] Watts RWQCB

Date(s) of Investigation: [illegible]

Purpose of Investigation: RCRA ISI Inspection

Company Name SimCal Chemical Page 2

Person(s) Interviewed/Date: see facility info p. 1
6/23/8[illegible]

Type of Business: agricultural fertilizer manufacturer - sell wholesale, retail, custom blends

Process Description: see attached flow chart

Process By-Products: gypsum from phosphoric acid plant

Comments: Valley Nitrogen Producers was purchased by J.R. Simplot Co. in October 1981 and is now called SimCal Chemical Co. They have the following plants on site:

1 nitric acid
1 sulphuric acid
1 nitrogen solution
1 urea
3 ammonium sulfate
1 ammonium nitrate
2 phosphoric acid

Company Name Sim Cal Chemicals Page 3

GENERATOR WASTE DETERMINATION AND MANIFEST COMPLIANCE CHECKLIST

Type of Waste: Sulphuric acid Catalyst - contains chromium pentoxide.

Quantity/Time: approx 30 tons per yr.

(262.11) Hazardous Waste Determination: (YES) NO

How Determined: California stat listing

(262.40) Has generator retained all records of determination? YES NO

Comment: NA

(262.12) Generator's EPA Identification Number:

CADOC910807 7

*** For Off-Site Transport of Hazardous Waste
Complete the next 2 pages of Manifest Requirements

Company Name Sim Cal Chemicals Page 4

(262.21)	Use of Manifest:	YES	NO
	Comment: _____		
	_____		
	Manifest Document Number: _____		
	Are the following items specified on the Manifest?		
	Generator's Name:	YES	NO
	Mailing Address:	YES	NO
	Telephone Number:	YES	NO
	EPA ID Number:	YES	NO
	Transporter's Name(s):	YES	NO
	EPA ID Number:	YES	NO
	TSD Facility Name:	YES	NO
	Address:	YES	NO
	EPA ID Number:	YES	NO
	Alternate Facility Designated:	YES	NO
***	If "yes" complete:		
	Alternate TSD Facility Name:	YES	NO
	Address:	YES	NO
	EPA ID Number:	YES	NO
	Waste Description on Manifest: _____	YES	NO
	_____		
	D.O.T. Shipping Name:	YES	NO
	D.O.T. Hazard Class:	YES	NO
	Total Quantity:	YES	NO
	Number of Containers:	YES	NO
	Signed Certification Statement:	YES	NO
(262.23)	Is the Manifest Signed by Generator:	YES	NO
	Is the Manifest Signed by 1st Transporter	YES	NO

Company Name SiCal Chemicals Page 5

(262.40) Has generator retained previous manifests: YES NO

(262.42) Has TSD facility copy of manifest been returned within 35 days? YES NO

If "no", has exception report been filed with EPA after 45 days? YES NO

Comments on Generator Waste Determination and Manifest Requirements:

Russell Carey stated that the spent catalysts would be hauled off approx once a year, but are used in the process until that time. The last haul was in October 1980 by Environmental Disposal Services & hauled to Kettleman. I observed a file of manifests but there were no manifests post 11/14/80

Company Name Sim Cal Chemicals Page 6

SUBPART C - PREPAREDNESS AND PREVENTION CHECKLIST

(265.32) Is the facility equipped with the following equipment?

- Internal alarm system?	(YES)	NO	N/A
- Portable fire extinguishers?	(YES)	NO	N/A
- Spill control equipment?	(YES)	NO	N/A
- Decontamination equipment?	YES	NO	N/A
- Water at volume to supply hoses, sprinklers, or water spray system?	(YES)	NO	N/A

Comment: Fire alarms throughout Plant; dirt + Shovels, 4 water wells - 2 used each day

(265.33) Is the above equipment tested and maintained for proper operation? (YES) NO N/A

Comment: _____

(265.34) Do employees handling hazardous waste have direct access to internal alarm or communication system? internal telephone System (YES) NO N/A

Is there ever just one employee on premises during operations? YES (NO) N/A

If "yes" does employee have access to external communication? YES NO N/A

Comment: _____

Company Name Sim Cal Chemicals Page 1

(265.35) Is there adequate aisle space for the movement of all equipment? (YES) NO N/A

Comment: _____

(265.37) Have arrangements been made with the local authorities? (YES) NO

With Police? (YES) NO
Police Dep't: are aware of plant + its operations

With Fire Department? (YES) NO
Fire Dep't: Westside Fire District
Fire Brigade on plant also

Emergency Response Teams? (YES) NO
Response Team: 24 hr. guard service trained in emergencies

Local Hospitals? (YES) NO
Hospital: no hospital - facility has special first aid van, 1 First aid man, supervisors trained

Other authorities? YES NO
List: _____

Have local authorities refused to make arrangements? YES (NO)

If "yes", is the refusal documented in operating record? YES NO

Comment: _____

Company Name Simcal Chemicals Page 8

SUBPART D - CONTINGENCY PLANNING CHECKLIST

(265.51) Is there a contingency plan; SPCC, or other emergency plan amended to include hazardous materials management provisions at the facility? YES (NO)

Date of plan: _____

Comment: There is no formalized written plan. However the guard has a list of emergency telephone numbers and the facility is completley fenced.

(265.52) Does the plan describe actions to respond to:

Fires?	YES	NO
Explosions?	YES	NO
Release of Hazardous Waste?	YES	NO

Does the plan describe all the arrangements made under Subpart C (265.37)? YES NO

Comment: _____

Does the plan list names, addresses, and phone numbers of emergency coordinators? YES NO

Comment: _____

Does the plan list all the equipment under Subpart C (265.32)? YES NO

Comment: _____

Does the plan describe the location and capabilities of all the equipment? YES (NO)

Comment: _____

Are evacuation procedures described in plan? YES NO

Comment: _____

Has the plan been submitted to each of the authorities listed under Subpart C (265.37)? YES NO

Comment: _____

Company Name Simcal Chemicals Page 10

26.5.16

Comments: Personnel Training

There is no formalized written Training plan. There is personnel safety Training for all employees.

However there is no Hazardous waste training on site because a specialist is contracted out to remove the spent catalysts - which are the only "Hazardous Wastes" on site.

Comments: The present process was started in 1976. There are 2 ponds on site lined with PVC and EDPM liners. These ponds (8 acre + 32 acre) contain cooling water from the various plants. The water is then pumped back into the system as needed.

There are six monitering wells on site and Simcal sends in a monthly monitoring report to the RWQCB.

There is also an unlined pond used for blowdown from a hot lime treating system. This pond has a neutral PH and the sludge (calcium sulfate + magnesium cylicate) is either reused or landfilled

When questioned re: wastes from possible spills of product Hazardous Materials Carey stated that these products are water treating chemicals supplied by Betz Labs in Pennsylvania. The drums are stored in a concrete area and any leakage would flow into a drain + go back into the process. Once the "Betz" product is used the drums are triple rinsed and this wastewater would also go into the cooling ponds to be reused in the system. The drums are then recycled. Carey stated there had been no leaks or spills this year.

When asked why the facility had notified

Comments: for asbestos wastes Carey explained that at the time of notification he thought he should notify for it, but the only asbestos on site would be for some insulation in the plant but he wasn't even sure if there was any.

Carey stated that the plant has never dealt with any pesticides.

State
TSC 14-2(81)180

SITE

SimCal Chemical Co. (formerly Valley Nitrogen)
12688 South Colorado Ave.
Helm, California 93627

INVESTIGATION PARTICIPANTS

John Moe, Ecology & Environment, Inc., Investigator, (415) 777-2811
Ron Karpowicz, Ecology & Environment, Inc., Investigator, (415) 777-2811
Sandy Avol, EPA Region IX, Inspector, (415) 556-5010
Richard Taft, EPA, Region IX, Inspector, (415) 556-8047
Arnold Hatai, CVRWQCB, (209) 445-5116

PRINCIPAL SITE CONTACT

Russell Carey, SimCal/Environmental Engineer, (209) 866-5681

TIME AND DATE OF INSPECTION

June 23, 1981; 0840 - 1150 hours

1.0 INTRODUCTION

SimCal Chemical (Valley Nitrogen) has been identified by EPA - Region IX as a potential uncontrolled hazardous waste site. Ecology & Environment, Inc. (E & E) was requested by EPA to conduct a preliminary investigation at the Helm facility to assess the facility's status within EPA's uncontrolled hazardous waste site program and to evaluate the "uncontrolled hazardous waste related" problems that are or may be associated with past and/or present site activities. This report summarizes the results of E & E's preliminary investigation and provides recommendations for future action. The report is divided into the following sections:

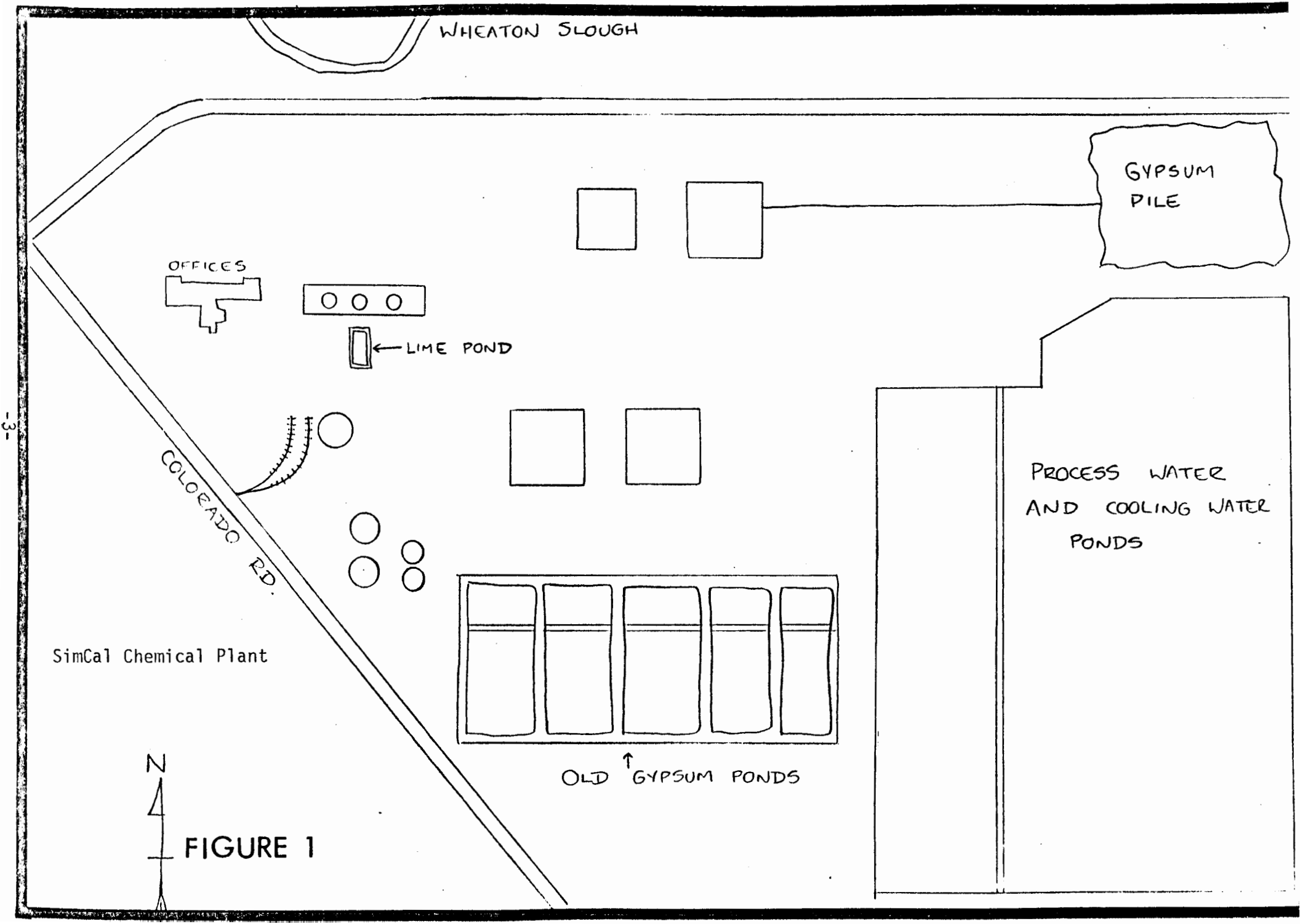
- Overview of facility operations
- Overview of waste generation and disposal practices
- Observations
- Discussion
- Site Evaluation and Recommendations
- Photographic Documentation

2.0 OVERVIEW OF PLANT OPERATIONS

- Operation began in 1959 as a farmers co-op.
- Agricultural chemical production:
  - Anhydrous ammonia
  - Aqua ammonia
  - Urea
  - Ammonium nitrate
  - Ammonium sulfate
  - Ammonium phosphates
  - Nitric acid
  - Sulfuric acid
  - Phosphoric acid
  - Gypsum
- Fertilizer production only.
- No pesticide production.
- See production diagram in back of report for process information.
- Facility surrounded by crop land - cotton, beans.
- Production capacity variable since 1959 - plants added or shut down - products essentially have remained the same.
- Facility operates as a retail outlet, often selling directly to farmers.
- Facility occupies over 100 acres.
- In October, 1979 Valley Nitrogen Producers filed for bankruptcy. October, 1980 taken over by J.R. Simplot Co. (Pocatello, Idaho) - facility now SimCal Chemical Co.
- Processes demand large quantities of water - by using cooling ponds facility is able to reuse most of the water.
- Four operable wells on-site; 2 abandoned wells - water use is 600 gallons/minute - primarily used for cooling purposes.
- Well water level is 130 feet (1974).

3.0 OVERVIEW OF WASTE GENERATION AND DISPOSAL PRACTICES

- Waste products have not substantially changed since 1959.
- Principal waste streams are:
  - Sludge (lime) from water softening



SimCal Chemical Plant

FIGURE 1

- Solid gypsum from production of phosphoric acid from phosphate rock
- Process wastewater from all on-site production plants
- Spent catalyst (vanadium pentoxide) from sulfuric acid production

- Lime sludge from water softening (boiler feedwater)
  - Unlined settling pond receives blowdown from hot lime treatment (≈ 15000 gpd)
  - Lime and other solids allowed to settle to bottom
  - Periodically lime sludge dredged out and taken to local landfill (non-hazardous)
  - Same system since 1959
- Gypsum from phosphoric acid production (4 tons gypsum produced/1 ton phosphoric acid)
  - 1963-1980: pumped as a slurry to approximately 14 acres of unlined ponds. After settling, supernatant was pumped out and recirculated through production. The dried gypsum was removed by tractor for sale as a soil amendment (phosphatic gypsum). Although unlined natural buildup of gypsum in these ponds may make them relatively impervious to infiltration.(See Kleinfelder report in Appendix)
  - 1976 - present: filter cake (gypsum) is transported via conveyer belt to piles for further drying. This system was started in 1976 and as of last year was capable of handling all gypsum byproduct. The gypsum is harvested by a contractor. 150,000 tons were sold last year - 300,000 projected for 1981.
  - In case of process upset in phosphoric acid plant, gypsum slurry can be diverted to old settling ponds.
- Process wastewater
  - 1959 - 1976: all process water was discharged to Wheaton Slough, a source of irrigation water north of the facility.
  - 1976 - present: only runoff from the parking lot goes into Wheaton Slough. All other process and cooling water is pumped to either 40 acres of membrane-lined evaporation ponds six to eight feet deep or to the old gypsum ponds. The lined ponds are surrounded by a series of monitoring wells for leakage detection. A network of cannons and electronic "scarecrows" discourage waterfowl from the ponds (pH 2).

- Spent catalyst (20-30 tons/year)
  - In the past the spent vanadium pentoxide has been resold to the manufacturer for reclaiming. Lately it has been removed (by contractor) and disposed of in a Class I dump site (Kettleman Hills). Russell Carey was fairly certain that none had ever been disposed of on-site.
  - North of the old gypsum ponds a pit (50' x 150' x 20') was used to dispose of construction debris (1974-1978). No process waste was placed in the pit, according to Russel Carey.

4.0 OBSERVATIONS

- Facility is totally fenced with 24-hour security.
- Extremely sparsely populated area around site. Closest town is Helm - two miles to the south.
- Some spillage was observed in the vicinity of the molten sulfur storage area.
- No discharge to Wheaton Slough was observed.
- The electronic scarecrows at the lined pond area were in operation.
- In the past, breaks in the pond liner have caused it to "balloon" up to the surface, providing a visual leak detection system. In such cases the contents of the pond are diverted to another pond and the liner is repaired.
- No releases from the lined ponds have ever occurred due to breaches in the dikes.
- Standing water was observed in the monitoring wells at approximately the same level as the bottom of the lined ponds. Coupled with water quality data indicating higher quality water in the monitoring wells than in the ponds (see Appendix), this indicates that perched groundwater may be entering the wells, rather than leakage from the ponds.

5.0 DISCUSSION

This facility has limited waste products since the products and processes are designed to reuse any byproducts or waste streams. The lined, monitored ponds appear to effectively contain wastewater. The unlined ponds formerly used for gypsum settling, which still receive some

process water, were found to be relatively impermeable because of gypsum deposits. Past disposal practices, while less secure than present methods, appear to have presented little opportunity for significant problems. The Central Valley Regional Water Quality Control Board has been involved in monitoring waste disposal at this facility for several years.

The primary RCRA-defined hazardous waste on site is spent vanadium pentoxide catalyst. There is no evidence of any improper handling or disposal of this material. General information on the toxicity and handling of this material is presented in the Appendix.

6.0 SITE EVALUATION AND RECOMMENDATIONS

- Based on existing documentation this facility appears to constitute a low hazard potential. The principle avenue of potential contamination is infiltration to groundwater. This appears to be effectively prevented by the lined ponds and the gypsum-sealed ponds.
- At the present time no further FIT investigative activities are recommended for this facility.

APPENDIX

- Photographic Documentation
- Appointment confirmation letter
- Fertilizer production block diagram
- EPA form T 2070-3
- Kleinfelder permeability test results
- Wheaton Slough water analysis
- Vanadium catalyst information
- Wastewater monitoring reports May 1 - July 10, 1981